

SEQUENCE LISTING

<110> Merck & Co., Inc.

<120> ORTHOGONAL GENE SWITCHES

<130> ITR0041-PCT

<150> 60/514,362

<151> 2003-10-24

<160> 62

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 314

<212> PRT

<213> human

<400> 1

```

Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
1          5          10          15
Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
20          25          30
Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
35          40          45
Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
50          55          60
Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
65          70          75          80
Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
85          90          95
Leu Leu Glu Cys Ala Trp Leu Glu Ile Leu Met Ile Gly Leu Val Trp
100         105         110
Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
115         120         125
Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Met Val Glu Ile Phe
130         135         140
Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
145         150         155         160
Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
165         170         175
Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
180         185         190
His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
195         200         205
Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
210         215         220
Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
225         230         235         240
Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
245         250         255

```

Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 2

<211> 314

<212> PRT

<213> Artificial Sequence

<220>

<223> human sequence with a point mutation

<400> 2

Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Met Val Glu Ile Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285

Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 3
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 3
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Ile Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300

Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
305 310

<210> 4

<211> 314

<212> PRT

<213> Artificial Sequence

<220>

<223> human sequence with point mutations

<400> 4

Ser	Ala	Gly	Asp	Met	Arg	Ala	Ala	Asn	Leu	Trp	Pro	Ser	Pro	Leu	Met	1	5	10	15
Ile	Lys	Arg	Ser	Lys	Lys	Asn	Ser	Leu	Ala	Leu	Ser	Leu	Thr	Ala	Asp	20	25	30	35
Gln	Met	Val	Ser	Ala	Leu	Leu	Asp	Ala	Glu	Pro	Pro	Ile	Leu	Tyr	Ser	40	45	50	55
Glu	Tyr	Asp	Pro	Thr	Arg	Pro	Phe	Ser	Glu	Ala	Ser	Met	Met	Gly	Leu	60	65	70	75
Leu	Thr	Asn	Leu	Ala	Asp	Arg	Glu	Leu	Val	His	Met	Ile	Asn	Trp	Ala	80	85	90	95
Lys	Arg	Val	Pro	Gly	Phe	Val	Asp	Leu	Thr	Leu	His	Asp	Gln	Val	His	100	105	110	115
Leu	Leu	Glu	Cys	Ala	Trp	Met	Glu	Ile	Leu	Met	Ile	Gly	Leu	Val	Trp	120	125	130	135
Arg	Ser	Met	Glu	His	Pro	Gly	Lys	Cys	Val	Glu	Gly	Gly	Val	Glu	Ile	140	145	150	155
Leu	Asp	Arg	Asn	Gln	Gly	Lys	Cys	Val	Glu	Gly	Gly	Val	Glu	Ile	Phe	160	165	170	175
Asp	Met	Leu	Leu	Ala	Thr	Ser	Ser	Arg	Phe	Arg	Met	Met	Asn	Leu	Gln	180	185	190	195
Gly	Glu	Glu	Phe	Val	Cys	Leu	Lys	Ser	Ile	Ile	Leu	Leu	Asn	Ser	Gly	200	205	210	215
Val	Tyr	Thr	Phe	Leu	Ser	Ser	Thr	Leu	Lys	Ser	Leu	Glu	Glu	Lys	Asp	220	225	230	235
His	Ile	His	Arg	Val	Leu	Asp	Lys	Ile	Thr	Asp	Thr	Leu	Ile	His	Leu	240	245	250	255
Met	Ala	Lys	Ala	Gly	Leu	Thr	Leu	Gln	Gln	Gln	His	Gln	Arg	Leu	Ala	260	265	270	275
Gln	Leu	Leu	Leu	Ile	Leu	Ser	His	Ile	Arg	His	Met	Ser	Asn	Lys	Gly	280	285	290	295
Met	Glu	His	Leu	Tyr	Ser	Met	Lys	Cys	Lys	Asn	Val	Val	Pro	Leu	Tyr	300	305	310	

<210> 5
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 5
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Met Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 6
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 6
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Met Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 7

<211> 314

<212> PRT

<213> Artificial Sequence

<220>

<223> human sequence with point mutations

<400> 7

```

Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1          5          10          15
Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20          25          30
Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35          40          45
Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50          55          60
Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65          70          75          80
Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85          90          95
Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Met Val Trp
100          105          110
Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
115          120          125
Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Met Phe
130          135          140
Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
145          150          155          160
Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
165          170          175
Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
180          185          190
His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
195          200          205
Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
210          215          220
Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
225          230          235          240
Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
245          250          255
Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
260          265          270
Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
275          280          285
Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
290          295          300
Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
305          310

```

<210> 8
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 8

Ser	Ala	Gly	Asp	Met	Arg	Ala	Ala	Asn	Leu	Trp	Pro	Ser	Pro	Leu	Met
1				5					10					15	
Ile	Lys	Arg	Ser	Lys	Lys	Asn	Ser	Leu	Ala	Leu	Ser	Leu	Thr	Ala	Asp
			20					25					30		
Gln	Met	Val	Ser	Ala	Leu	Leu	Asp	Ala	Glu	Pro	Pro	Ile	Leu	Tyr	Ser
		35					40					45			
Glu	Tyr	Asp	Pro	Thr	Arg	Pro	Phe	Ser	Glu	Ala	Ser	Met	Met	Gly	Leu
	50					55					60				
Leu	Thr	Asn	Leu	Ala	Asp	Arg	Glu	Leu	Val	His	Met	Ile	Asn	Trp	Ala
65					70				75						80
Lys	Arg	Val	Pro	Gly	Phe	Val	Asp	Leu	Thr	Leu	His	Asp	Gln	Val	His
				85					90					95	
Leu	Leu	Glu	Cys	Ala	Trp	Met	Glu	Ile	Leu	Met	Ile	Gly	Leu	Val	Trp
			100					105					110		
Arg	Ser	Met	Glu	His	Pro	Gly	Lys	Leu	Leu	Phe	Ala	Pro	Asn	Leu	Leu
		115					120					125			
Leu	Asp	Arg	Asn	Gln	Gly	Lys	Cys	Val	Glu	Gly	Gly	Val	Glu	Val	Phe
	130					135					140				
Asp	Met	Leu	Leu	Ala	Thr	Ser	Ser	Arg	Phe	Arg	Met	Met	Asn	Leu	Gln
145					150					155					160
Gly	Glu	Glu	Phe	Val	Cys	Leu	Lys	Ser	Ile	Ile	Leu	Leu	Asn	Ser	Gly
				165					170					175	
Val	Tyr	Thr	Phe	Leu	Ser	Ser	Thr	Leu	Lys	Ser	Leu	Glu	Glu	Lys	Asp
			180					185					190		
His	Ile	His	Arg	Val	Leu	Asp	Lys	Ile	Thr	Asp	Thr	Leu	Ile	His	Leu
		195					200					205			
Met	Ala	Lys	Ala	Gly	Leu	Thr	Leu	Gln	Gln	Gln	His	Gln	Arg	Leu	Ala
	210					215					220				
Gln	Leu	Leu	Leu	Ile	Leu	Ser	His	Ile	Arg	His	Met	Ser	Asn	Lys	Gly
225					230					235					240
Met	Glu	His	Leu	Tyr	Ser	Met	Lys	Cys	Lys	Asn	Val	Val	Pro	Leu	Tyr
			245						250					255	
Asp	Leu	Leu	Leu	Glu	Met	Leu	Asp	Ala	His	Arg	Leu	His	Ala	Pro	Thr
		260						265					270		
Ser	Arg	Gly	Gly	Ala	Ser	Val	Glu	Thr	Asp	Gln	Ser	His	Leu	Ala	
		275					280					285			
Thr	Ala	Gly	Ser	Thr	Ser	Ser	His	Ser	Leu	Gln	Lys	Tyr	Tyr	Ile	Thr
	290					295					300				
Gly	Glu	Ala	Glu	Gly	Phe	Pro	Ala	Thr	Val						
305					310										

<210> 9
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 9
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Val Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 10
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 10

Ser	Ala	Gly	Asp	Met	Arg	Ala	Ala	Asn	Leu	Trp	Pro	Ser	Pro	Leu	Met
1				5					10					15	
Ile	Lys	Arg	Ser	Lys	Lys	Asn	Ser	Leu	Ala	Leu	Ser	Leu	Thr	Ala	Asp
			20					25					30		
Gln	Met	Val	Ser	Ala	Leu	Leu	Asp	Ala	Glu	Pro	Pro	Ile	Leu	Tyr	Ser
			35				40					45			
Glu	Tyr	Asp	Pro	Thr	Arg	Pro	Phe	Ser	Glu	Ala	Ser	Met	Met	Gly	Leu
	50					55					60				
Leu	Thr	Asn	Leu	Ala	Asp	Arg	Glu	Leu	Val	His	Met	Ile	Asn	Trp	Ala
					70					75					80
Lys	Arg	Val	Pro	Gly	Phe	Val	Asp	Leu	Thr	Leu	His	Asp	Gln	Val	His
				85					90					95	
Leu	Leu	Glu	Cys	Ala	Trp	Met	Glu	Ile	Leu	Met	Ile	Gly	Ile	Val	Trp
			100					105					110		
Arg	Ser	Met	Glu	His	Pro	Gly	Lys	Leu	Leu	Phe	Ala	Pro	Asn	Leu	Leu
		115					120					125			
Leu	Asp	Arg	Asn	Gln	Gly	Lys	Cys	Val	Glu	Gly	Gly	Val	Glu	Val	Phe
	130					135					140				
Asp	Met	Leu	Leu	Ala	Thr	Ser	Ser	Arg	Phe	Arg	Met	Met	Asn	Leu	Gln
	145				150					155					160
Gly	Glu	Glu	Phe	Val	Cys	Leu	Lys	Ser	Ile	Ile	Leu	Leu	Asn	Ser	Gly
				165					170					175	
Val	Tyr	Thr	Phe	Leu	Ser	Ser	Thr	Leu	Lys	Ser	Leu	Glu	Glu	Lys	Asp
			180					185					190		
His	Ile	His	Arg	Val	Leu	Asp	Lys	Ile	Thr	Asp	Thr	Leu	Ile	His	Leu
		195					200					205			
Met	Ala	Lys	Ala	Gly	Leu	Thr	Leu	Gln	Gln	Gln	His	Gln	Arg	Leu	Ala
	210					215					220				
Gln	Leu	Leu	Leu	Ile	Leu	Ser	His	Ile	Arg	His	Met	Ser	Asn	Lys	Gly
					230					235					240
Met	Glu	His	Leu	Tyr	Ser	Met	Lys	Cys	Lys	Asn	Val	Val	Pro	Leu	Tyr
				245					250					255	
Asp	Leu	Leu	Leu	Glu	Met	Leu	Asp	Ala	His	Arg	Leu	His	Ala	Pro	Thr
			260					265					270		
Ser	Arg	Gly	Gly	Ala	Ser	Val	Glu	Thr	Asp	Gln	Ser	His	Leu	Ala	
		275					280					285			
Thr	Ala	Gly	Ser	Thr	Ser	Ser	His	Ser	Leu	Gln	Lys	Tyr	Tyr	Ile	Thr
	290					295					300				
Gly	Glu	Ala	Glu	Gly	Phe	Pro	Ala	Thr	Val						
305					310										

<210> 11
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 11

Ser	Ala	Gly	Asp	Met	Arg	Ala	Ala	Asn	Leu	Trp	Pro	Ser	Pro	Leu	Met
1				5					10					15	
Ile	Lys	Arg	Ser	Lys	Lys	Asn	Ser	Leu	Ala	Leu	Ser	Leu	Thr	Ala	Asp
			20					25					30		
Gln	Met	Val	Ser	Ala	Leu	Leu	Asp	Ala	Glu	Pro	Pro	Ile	Leu	Tyr	Ser
			35				40					45			
Glu	Tyr	Asp	Pro	Thr	Arg	Pro	Phe	Ser	Glu	Ala	Ser	Met	Met	Gly	Leu
	50					55					60				
Leu	Thr	Asn	Leu	Ala	Asp	Arg	Glu	Leu	Val	His	Met	Ile	Asn	Trp	Ala
65					70				75						80
Lys	Arg	Val	Pro	Gly	Phe	Val	Asp	Leu	Thr	Leu	His	Asp	Gln	Val	His
				85				90					95		
Leu	Leu	Glu	Cys	Ala	Trp	Met	Glu	Ile	Leu	Met	Ile	Gly	Leu	Val	Trp
			100				105					110			
Arg	Ser	Met	Glu	His	Pro	Gly	Lys	Leu	Leu	Phe	Ala	Pro	Asn	Leu	Leu
	115					120						125			
Leu	Asp	Arg	Asn	Gln	Gly	Lys	Cys	Val	Glu	Gly	Gly	Val	Glu	Leu	Phe
	130				135						140				
Asp	Met	Leu	Leu	Ala	Thr	Ser	Ser	Arg	Phe	Arg	Met	Met	Asn	Leu	Gln
145				150					155						160
Gly	Glu	Glu	Phe	Val	Cys	Leu	Lys	Ser	Ile	Ile	Leu	Leu	Asn	Ser	Gly
			165					170					175		
Val	Tyr	Thr	Phe	Leu	Ser	Ser	Thr	Leu	Lys	Ser	Leu	Glu	Glu	Lys	Asp
			180				185						190		
His	Ile	His	Arg	Val	Leu	Asp	Lys	Ile	Thr	Asp	Thr	Leu	Ile	His	Leu
	195					200						205			
Met	Ala	Lys	Ala	Gly	Leu	Thr	Leu	Gln	Gln	Gln	His	Gln	Arg	Leu	Ala
	210				215						220				
Gln	Leu	Leu	Leu	Ile	Leu	Ser	His	Ile	Arg	His	Met	Ser	Asn	Lys	Gly
225				230					235						240
Met	Glu	His	Leu	Tyr	Ser	Met	Lys	Cys	Lys	Asn	Val	Val	Pro	Leu	Tyr
			245				250						255		
Asp	Leu	Leu	Leu	Glu	Met	Leu	Asp	Ala	His	Arg	Leu	His	Ala	Pro	Thr
			260				265						270		
Ser	Arg	Gly	Gly	Ala	Ser	Val	Glu	Glu	Thr	Asp	Gln	Ser	His	Leu	Ala
		275				280					285				
Thr	Ala	Gly	Ser	Thr	Ser	Ser	His	Ser	Leu	Gln	Lys	Tyr	Tyr	Ile	Thr
	290				295						300				
Gly	Glu	Ala	Glu	Gly	Phe	Pro	Ala	Thr	Val						
305					310										

<210> 12
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 12
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 13
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 13
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Val Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 14
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 14

Ser	Ala	Gly	Asp	Met	Arg	Ala	Ala	Asn	Leu	Trp	Pro	Ser	Pro	Leu	Met
1				5					10					15	
Ile	Lys	Arg	Ser	Lys	Lys	Asn	Ser	Leu	Ala	Leu	Ser	Leu	Thr	Ala	Asp
			20					25					30		
Gln	Met	Val	Ser	Ala	Leu	Leu	Asp	Ala	Glu	Pro	Pro	Ile	Leu	Tyr	Ser
		35					40					45			
Glu	Tyr	Asp	Pro	Thr	Arg	Pro	Phe	Ser	Glu	Ala	Ser	Met	Met	Gly	Leu
				50			55					60			
Leu	Thr	Asn	Leu	Ala	Asp	Arg	Glu	Leu	Val	His	Met	Ile	Asn	Trp	Ala
65					70					75					80
Lys	Arg	Val	Pro	Gly	Phe	Val	Asp	Leu	Thr	Leu	His	Asp	Gln	Val	His
				85					90					95	
Leu	Leu	Glu	Cys	Ala	Trp	Met	Glu	Ile	Leu	Met	Ile	Gly	Leu	Val	Trp
			100					105					110		
Arg	Ser	Met	Glu	His	Pro	Gly	Lys	Leu	Leu	Trp	Ala	Pro	Asn	Leu	Leu
		115					120						125		
Leu	Asp	Arg	Asn	Gln	Gly	Lys	Cys	Val	Glu	Gly	Ala	Val	Glu	Leu	Phe
	130					135					140				
Asp	Met	Leu	Leu	Ala	Thr	Ser	Ser	Arg	Phe	Arg	Met	Met	Asn	Leu	Gln
145					150					155					160
Gly	Glu	Glu	Phe	Val	Cys	Leu	Lys	Ser	Ile	Ile	Leu	Leu	Asn	Ser	Gly
			165						170					175	
Val	Tyr	Thr	Phe	Leu	Ser	Ser	Thr	Leu	Lys	Ser	Leu	Glu	Glu	Lys	Asp
			180					185					190		
His	Ile	His	Arg	Val	Leu	Asp	Lys	Ile	Thr	Asp	Thr	Leu	Ile	His	Leu
		195					200						205		
Met	Ala	Lys	Ala	Gly	Leu	Thr	Leu	Gln	Gln	Gln	His	Gln	Arg	Leu	Ala
	210					215						220			
Gln	Leu	Leu	Leu	Ile	Leu	Ser	His	Ile	Arg	His	Met	Ser	Asn	Lys	Gly
225					230					235					240
Met	Glu	His	Leu	Tyr	Ser	Met	Lys	Cys	Lys	Asn	Val	Val	Pro	Leu	Tyr
			245						250					255	
Asp	Leu	Leu	Leu	Glu	Met	Leu	Asp	Ala	His	Arg	Leu	His	Ala	Pro	Thr
			260					265					270		
Ser	Arg	Gly	Gly	Ala	Ser	Val	Glu	Glu	Thr	Asp	Gln	Ser	His	Leu	Ala
		275					280						285		
Thr	Ala	Gly	Ser	Thr	Ser	Ser	His	Ser	Leu	Gln	Lys	Tyr	Tyr	Ile	Thr
	290					295					300				
Gly	Glu	Ala	Glu	Gly	Phe	Pro	Ala	Thr	Val						
305						310									

<210> 15
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 15
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Val Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Ala Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 16
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 16
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Ile Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 17
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 17
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Ile Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 18
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 18

Ser	Ala	Gly	Asp	Met	Arg	Ala	Ala	Asn	Leu	Trp	Pro	Ser	Pro	Leu	Met
1				5					10					15	
Ile	Lys	Arg	Ser	Lys	Lys	Asn	Ser	Leu	Ala	Leu	Ser	Leu	Thr	Ala	Asp
			20					25					30		
Gln	Met	Val	Ser	Ala	Leu	Leu	Asp	Ala	Glu	Pro	Pro	Ile	Leu	Tyr	Ser
		35					40					45			
Glu	Tyr	Asp	Pro	Thr	Arg	Pro	Phe	Ser	Glu	Ala	Ser	Met	Met	Gly	Leu
	50					55					60				
Leu	Thr	Asn	Leu	Ala	Ala	Arg	Glu	Leu	Val	His	Met	Ile	Asn	Trp	Ala
65					70				75						80
Lys	Arg	Val	Pro	Gly	Phe	Val	Asp	Leu	Thr	Leu	His	Asp	Gln	Val	His
				85				90					95		
Leu	Leu	Glu	Cys	Ala	Trp	Met	Glu	Ile	Leu	Met	Ile	Gly	Leu	Val	Trp
			100					105					110		
Arg	Ser	Met	Glu	His	Pro	Gly	Lys	Leu	Leu	Phe	Ala	Pro	Asn	Leu	Leu
		115					120					125			
Leu	Asp	Arg	Asn	Gln	Gly	Lys	Cys	Val	Glu	Gly	Gly	Val	Glu	Met	Phe
	130					135					140				
Asp	Met	Leu	Leu	Ala	Thr	Ser	Ser	Arg	Phe	Arg	Met	Met	Asn	Leu	Gln
145					150					155					160
Gly	Glu	Glu	Phe	Val	Cys	Leu	Lys	Ser	Ile	Ile	Leu	Leu	Asn	Ser	Gly
				165					170					175	
Val	Tyr	Thr	Phe	Leu	Ser	Ser	Thr	Leu	Lys	Ser	Leu	Glu	Glu	Lys	Asp
			180					185					190		
His	Ile	His	Arg	Val	Leu	Asp	Lys	Ile	Thr	Asp	Thr	Leu	Ile	His	Leu
		195					200					205			
Met	Ala	Lys	Ala	Gly	Leu	Thr	Leu	Gln	Gln	Gln	His	Gln	Arg	Leu	Ala
	210					215					220				
Gln	Leu	Leu	Leu	Ile	Leu	Ser	His	Ile	Arg	His	Met	Ser	Asn	Lys	Gly
225					230					235					240
Met	Glu	Val	Leu	Tyr	Ser	Met	Lys	Cys	Lys	Asn	Val	Val	Pro	Leu	Tyr
			245						250					255	
Asp	Leu	Leu	Leu	Glu	Met	Leu	Asp	Ala	His	Arg	Leu	His	Ala	Pro	Thr
			260					265					270		
Ser	Arg	Gly	Gly	Ala	Ser	Val	Glu	Thr	Asp	Gln	Ser	His	Leu	Ala	
		275					280					285			
Thr	Ala	Gly	Ser	Thr	Ser	Ser	His	Ser	Leu	Gln	Lys	Tyr	Tyr	Ile	Thr
	290					295					300				
Gly	Glu	Ala	Glu	Gly	Phe	Pro	Ala	Thr	Val						
305					310										

<210> 19
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 19

Ser	Ala	Gly	Asp	Met	Arg	Ala	Ala	Asn	Leu	Trp	Pro	Ser	Pro	Leu	Met
1				5					10					15	
Ile	Lys	Arg	Ser	Lys	Lys	Asn	Ser	Leu	Ala	Leu	Ser	Leu	Thr	Ala	Asp
			20					25					30		
Gln	Met	Val	Ser	Ala	Leu	Leu	Asp	Ala	Glu	Pro	Pro	Ile	Leu	Tyr	Ser
		35					40					45			
Glu	Tyr	Asp	Pro	Thr	Arg	Pro	Phe	Ser	Glu	Ala	Ser	Met	Met	Gly	Leu
	50					55					60				
Leu	Thr	Asn	Leu	Ala	Ala	Arg	Glu	Leu	Val	His	Met	Ile	Asn	Trp	Ala
65					70				75						80
Lys	Arg	Val	Pro	Gly	Phe	Val	Asp	Leu	Thr	Leu	His	Asp	Gln	Val	His
				85				90					95		
Leu	Leu	Glu	Cys	Ala	Trp	Met	Glu	Ile	Leu	Met	Ile	Gly	Leu	Val	Trp
			100				105						110		
Arg	Ser	Met	Glu	His	Pro	Gly	Lys	Leu	Leu	Trp	Ala	Pro	Asn	Leu	Leu
		115					120					125			
Leu	Asp	Arg	Asn	Gln	Gly	Lys	Cys	Val	Glu	Gly	Gly	Val	Glu	Met	Phe
	130					135					140				
Asp	Met	Leu	Leu	Ala	Thr	Ser	Ser	Arg	Phe	Arg	Met	Met	Asn	Leu	Gln
145					150					155					160
Gly	Glu	Glu	Phe	Val	Cys	Leu	Lys	Ser	Ile	Ile	Leu	Leu	Asn	Ser	Gly
			165						170					175	
Val	Tyr	Thr	Phe	Leu	Ser	Ser	Thr	Leu	Lys	Ser	Leu	Glu	Glu	Lys	Asp
			180					185					190		
His	Ile	His	Arg	Val	Leu	Asp	Lys	Ile	Thr	Asp	Thr	Leu	Ile	His	Leu
		195					200					205			
Met	Ala	Lys	Ala	Gly	Leu	Thr	Leu	Gln	Gln	Gln	His	Gln	Arg	Leu	Ala
	210					215					220				
Gln	Leu	Leu	Leu	Ile	Leu	Ser	His	Ile	Arg	His	Met	Ser	Asn	Lys	Gly
225					230					235					240
Met	Glu	Val	Leu	Tyr	Ser	Met	Lys	Cys	Lys	Asn	Val	Val	Pro	Leu	Tyr
			245						250					255	
Asp	Leu	Leu	Leu	Glu	Met	Leu	Asp	Ala	His	Arg	Leu	His	Ala	Pro	Thr
			260					265					270		
Ser	Arg	Gly	Gly	Ala	Ser	Val	Glu	Thr	Asp	Gln	Ser	His	Leu	Ala	
		275					280				285				
Thr	Ala	Gly	Ser	Thr	Ser	Ser	His	Ser	Leu	Gln	Lys	Tyr	Tyr	Ile	Thr
	290					295					300				
Gly	Glu	Ala	Glu	Gly	Phe	Pro	Ala	Thr	Val						
305					310										

<210> 20
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 20
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Met Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Met Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 21
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 21
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Val Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 22
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 22
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Val Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 23
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 23
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Ile Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Val Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 24
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 24
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 25
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 25
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 26
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 26
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Val Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 27
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 27
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Ala Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 28
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 28
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Ala Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Val Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Ala Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Gly
 225 230 235 240
 Met Glu Val Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 29
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 29

Ser	Ala	Gly	Asp	Met	Arg	Ala	Ala	Asn	Leu	Trp	Pro	Ser	Pro	Leu	Met	1	5	10	15
Ile	Lys	Arg	Ser	Lys	Lys	Asn	Ser	Leu	Ala	Leu	Ser	Leu	Thr	Ala	Asp	20	25	30	
Gln	Met	Val	Ser	Ala	Leu	Leu	Asp	Ala	Glu	Pro	Pro	Ile	Leu	Tyr	Ser	35	40	45	
Glu	Tyr	Asp	Pro	Thr	Arg	Pro	Phe	Ser	Glu	Ala	Ser	Met	Met	Gly	Leu	50	55	60	
Leu	Thr	Asn	Leu	Ala	Asp	Arg	Glu	Leu	Val	His	Met	Ile	Asn	Trp	Ala	65	70	75	80
Lys	Arg	Val	Pro	Gly	Phe	Val	Asp	Leu	Thr	Leu	His	Asp	Gln	Val	His	85	90	95	
Leu	Leu	Glu	Cys	Ala	Trp	Met	Glu	Ile	Leu	Met	Ile	Gly	Leu	Val	Trp	100	105	110	
Arg	Ser	Met	Glu	His	Pro	Gly	Lys	Leu	Leu	Phe	Ala	Pro	Asn	Leu	Leu	115	120	125	
Leu	Asp	Arg	Asn	Gln	Gly	Lys	Cys	Val	Glu	Gly	Gly	Val	Glu	Ile	Phe	130	135	140	
Asp	Met	Leu	Leu	Ala	Thr	Ser	Ser	Arg	Phe	Arg	Met	Met	Asn	Leu	Gln	145	150	155	160
Gly	Glu	Glu	Phe	Val	Cys	Leu	Lys	Ser	Ile	Ile	Leu	Leu	Asn	Ser	Gly	165	170	175	
Val	Tyr	Thr	Phe	Leu	Ser	Ser	Thr	Leu	Lys	Ser	Leu	Glu	Glu	Lys	Asp	180	185	190	
His	Ile	His	Arg	Val	Leu	Asp	Lys	Ile	Thr	Asp	Thr	Leu	Ile	His	Leu	195	200	205	
Met	Ala	Lys	Ala	Gly	Leu	Thr	Leu	Gln	Gln	Gln	His	Gln	Arg	Leu	Ala	210	215	220	
Gln	Leu	Leu	Leu	Ile	Leu	Ser	His	Ile	Arg	His	Met	Ser	Asn	Lys	Arg	225	230	235	240
Met	Glu	His	Leu	Tyr	Ser	Met	Lys	Cys	Lys	Asn	Val	Val	Pro	Leu	Tyr	245	250	255	
Asp	Leu	Leu	Leu	Glu	Met	Leu	Asp	Ala	His	Arg	Leu	His	Ala	Pro	Thr	260	265	270	
Ser	Arg	Gly	Gly	Ala	Ser	Val	Glu	Glu	Thr	Asp	Gln	Ser	His	Leu	Ala	275	280	285	
Thr	Ala	Gly	Ser	Thr	Ser	Ser	His	Ser	Leu	Gln	Lys	Tyr	Tyr	Ile	Thr	290	295	300	
Gly	Glu	Ala	Glu	Gly	Phe	Pro	Ala	Thr	Val							305	310		

<210> 30
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 30
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Ile Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 31
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 31
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Met Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 32
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 32
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Met Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 33
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 33
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Met Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Met Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 34
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 34
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Val Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 35
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 35
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Val Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 36
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 36
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Ile Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Val Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 37
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 37
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 38
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 38
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Gly Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 39
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 39

Ser	Ala	Gly	Asp	Met	Arg	Ala	Ala	Asn	Leu	Trp	Pro	Ser	Pro	Leu	Met	1	5	10	15
Ile	Lys	Arg	Ser	Lys	Lys	Asn	Ser	Leu	Ala	Leu	Ser	Leu	Thr	Ala	Asp	20	25	30	
Gln	Met	Val	Ser	Ala	Leu	Leu	Asp	Ala	Glu	Pro	Pro	Ile	Leu	Tyr	Ser	35	40	45	
Glu	Tyr	Asp	Pro	Thr	Arg	Pro	Phe	Ser	Glu	Ala	Ser	Met	Met	Gly	Leu	50	55	60	
Leu	Thr	Asn	Leu	Ala	Asp	Arg	Glu	Leu	Val	His	Met	Ile	Asn	Trp	Ala	65	70	75	80
Lys	Arg	Val	Pro	Gly	Phe	Val	Asp	Leu	Thr	Leu	His	Asp	Gln	Val	His	85	90	95	
Leu	Leu	Glu	Cys	Ala	Trp	Met	Glu	Ile	Leu	Met	Ile	Gly	Val	Val	Trp	100	105	110	
Arg	Ser	Met	Glu	His	Pro	Gly	Lys	Leu	Leu	Trp	Ala	Pro	Asn	Leu	Leu	115	120	125	
Leu	Asp	Arg	Asn	Gln	Gly	Lys	Cys	Val	Glu	Gly	Gly	Val	Glu	Leu	Phe	130	135	140	
Asp	Met	Leu	Leu	Ala	Thr	Ser	Ser	Arg	Phe	Arg	Met	Met	Asn	Leu	Gln	145	150	155	160
Gly	Glu	Glu	Phe	Val	Cys	Leu	Lys	Ser	Ile	Ile	Leu	Leu	Asn	Ser	Gly	165	170	175	
Val	Tyr	Thr	Phe	Leu	Ser	Ser	Thr	Leu	Lys	Ser	Leu	Glu	Glu	Lys	Asp	180	185	190	
His	Ile	His	Arg	Val	Leu	Asp	Lys	Ile	Thr	Asp	Thr	Leu	Ile	His	Leu	195	200	205	
Met	Ala	Lys	Ala	Gly	Leu	Thr	Leu	Gln	Gln	Gln	His	Gln	Arg	Leu	Ala	210	215	220	
Gln	Leu	Leu	Leu	Ile	Leu	Ser	His	Ile	Arg	His	Met	Ser	Asn	Lys	Arg	225	230	235	240
Met	Glu	His	Leu	Tyr	Ser	Met	Lys	Cys	Lys	Asn	Val	Val	Pro	Leu	Tyr	245	250	255	
Asp	Leu	Leu	Leu	Glu	Met	Leu	Asp	Ala	His	Arg	Leu	His	Ala	Pro	Thr	260	265	270	
Ser	Arg	Gly	Gly	Ala	Ser	Val	Glu	Glu	Thr	Asp	Gln	Ser	His	Leu	Ala	275	280	285	
Thr	Ala	Gly	Ser	Thr	Ser	Ser	His	Ser	Leu	Gln	Lys	Tyr	Tyr	Ile	Thr	290	295	300	
Gly	Glu	Ala	Glu	Gly	Phe	Pro	Ala	Thr	Val							305	310		

<210> 40
 <211> 314
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> human sequence with point mutations

<400> 40
 Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1 5 10 15
 Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
 20 25 30
 Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
 35 40 45
 Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
 50 55 60
 Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
 65 70 75 80
 Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
 85 90 95
 Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Leu Val Trp
 100 105 110
 Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
 115 120 125
 Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Ala Val Glu Leu Phe
 130 135 140
 Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
 145 150 155 160
 Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
 165 170 175
 Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
 180 185 190
 His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
 195 200 205
 Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
 210 215 220
 Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
 225 230 235 240
 Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
 245 250 255
 Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
 260 265 270
 Ser Arg Gly Gly Ala Ser Val Glu Glu Thr Asp Gln Ser His Leu Ala
 275 280 285
 Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
 290 295 300
 Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
 305 310

<210> 41

<211> 314

<212> PRT

<213> Artificial Sequence

<220>

<223> human sequence with point mutations

<400> 41

```

Ser Ala Gly Asp Met Arg Ala Ala Asn Leu Trp Pro Ser Pro Leu Met
 1           5           10           15
Ile Lys Arg Ser Lys Lys Asn Ser Leu Ala Leu Ser Leu Thr Ala Asp
           20           25           30

Gln Met Val Ser Ala Leu Leu Asp Ala Glu Pro Pro Ile Leu Tyr Ser
      35           40           45
Glu Tyr Asp Pro Thr Arg Pro Phe Ser Glu Ala Ser Met Met Gly Leu
      50           55           60
Leu Thr Asn Leu Ala Asp Arg Glu Leu Val His Met Ile Asn Trp Ala
      65           70           75           80
Lys Arg Val Pro Gly Phe Val Asp Leu Thr Leu His Asp Gln Val His
           85           90           95
Leu Leu Glu Cys Ala Trp Met Glu Ile Leu Met Ile Gly Val Val Trp
           100           105           110
Arg Ser Met Glu His Pro Gly Lys Leu Leu Trp Ala Pro Asn Leu Leu
           115           120           125
Leu Asp Arg Asn Gln Gly Lys Cys Val Glu Gly Ala Val Glu Leu Phe
           130           135           140
Asp Met Leu Leu Ala Thr Ser Ser Arg Phe Arg Met Met Asn Leu Gln
           145           150           155           160
Gly Glu Glu Phe Val Cys Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly
           165           170           175
Val Tyr Thr Phe Leu Ser Ser Thr Leu Lys Ser Leu Glu Glu Lys Asp
           180           185           190
His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His Leu
           195           200           205
Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu Ala
           210           215           220
Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys Arg
           225           230           235           240
Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu Tyr
           245           250           255
Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu His Ala Pro Thr
           260           265           270
Ser Arg Gly Gly Ala Ser Val Glu Thr Asp Gln Ser His Leu Ala
           275           280           285
Thr Ala Gly Ser Thr Ser Ser His Ser Leu Gln Lys Tyr Tyr Ile Thr
           290           295           300
Gly Glu Ala Glu Gly Phe Pro Ala Thr Val
305           310

```

<210> 42
 <211> 14
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> consensus human sequence

<400> 42
 gggttaatat aata

14

<210> 43
 <211> 844
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> chimeric human sequence with point mutations

<400> 43
 Met Val Ser Lys Leu Ser Gln Leu Gln Thr Glu Leu Leu Ala Ala Leu
 1 5 10 15
 Leu Glu Ser Gly Leu Ser Lys Glu Ala Leu Ile Gln Ala Leu Gly Glu
 20 25 30
 Pro Gly Pro Tyr Leu Leu Ala Gly Glu Gly Pro Leu Asp Lys Gly Glu
 35 40 45
 Ser Cys Gly Gly Gly Arg Gly Glu Leu Ala Glu Leu Pro Asn Gly Leu
 50 55 60
 Gly Glu Thr Arg Gly Ser Glu Asp Glu Thr Asp Asp Asp Gly Glu Asp
 65 70 75 80
 Phe Thr Pro Pro Ile Leu Lys Glu Leu Glu Asn Leu Ser Pro Glu Glu
 85 90 95
 Ala Ala His Gln Lys Ala Val Val Glu Thr Leu Leu Gln Glu Asp Pro
 100 105 110
 Trp Arg Val Ala Lys Met Val Lys Ser Tyr Leu Gln Gln His Asn Ile
 115 120 125
 Pro Gln Arg Glu Val Val Asp Thr Thr Gly Leu Asn Gln Ser His Leu
 130 135 140
 Ser Gln His Leu Asn Lys Gly Thr Pro Met Lys Thr Gln Lys Arg Ala
 145 150 155 160
 Ala Leu Tyr Thr Trp Tyr Val Arg Lys Gln Arg Glu Val Ala Gln Gln
 165 170 175
 Phe Thr His Ala Gly Gln Gly Gly Leu Ile Glu Glu Pro Thr Gly Asp
 180 185 190
 Glu Leu Pro Thr Lys Lys Gly Arg Arg Asn Arg Phe Lys Trp Gly Pro
 195 200 205
 Ala Ser Gln Gln Ile Leu Phe Gln Ala Tyr Glu Arg Gln Lys Asn Pro
 210 215 220
 Ser Lys Glu Glu Arg Glu Thr Leu Val Glu Glu Cys Asn Arg Ala Glu
 225 230 235 240
 Cys Ile Gln Arg Gly Val Ser Pro Ser Gln Ala Gln Gly Leu Gly Ser
 245 250 255
 Asn Leu Val Thr Glu Val Arg Val Tyr Asn Trp Phe Ala Asn Arg Arg
 260 265 270

Lys	Glu	Glu	Ala	Phe	Arg	His	Lys	Leu	Ala	Asp	Ile	Lys	Asn	Ser	Leu
		275					280					285			
Ala	Leu	Ser	Leu	Thr	Ala	Asp	Gln	Met	Val	Ser	Ala	Leu	Leu	Asp	Ala
		290				295					300				
Glu	Pro	Pro	Ile	Leu	Tyr	Ser	Glu	Tyr	Asp	Pro	Thr	Arg	Pro	Phe	Ser
305					310				315						320
Glu	Ala	Ser	Met	Met	Gly	Leu	Leu	Thr	Asn	Leu	Ala	Asp	Arg	Glu	Leu
				325					330						
Val	His	Met	Ile	Asn	Trp	Ala	Lys	Arg	Val	Pro	Gly	Phe	Val	Asp	Leu
			340					345					350		
Thr	Leu	His	Asp	Gln	Val	His	Leu	Leu	Glu	Cys	Ala	Trp	Met	Glu	Ile
		355					360					365			
Leu	Met	Ile	Gly	Leu	Val	Trp	Arg	Ser	Met	Glu	His	Pro	Gly	Lys	Leu
.		370				375					380				
Leu	Phe	Ala	Pro	Asn	Leu	Leu	Leu	Asp	Arg	Asn	Gln	Gly	Lys	Cys	Val
385					390					395					400
Glu	Gly	Gly	Val	Glu	Ile	Phe	Asp	Met	Leu	Leu	Ala	Thr	Ser	Ser	Arg
				405					410						
Phe	Arg	Met	Met	Asn	Leu	Gln	Gly	Glu	Glu	Phe	Val	Cys	Leu	Lys	Ser
			420					425					430		
Ile	Ile	Leu	Leu	Asn	Ser	Gly	Val	Tyr	Thr	Phe	Leu	Ser	Ser	Thr	Leu
		435					440					445			
Lys	Ser	Leu	Glu	Glu	Lys	Asp	His	Ile	His	Arg	Val	Leu	Asp	Lys	Ile
		450				455					460				
Thr	Asp	Thr	Leu	Ile	His	Leu	Met	Ala	Lys	Ala	Gly	Leu	Thr	Leu	Gln
465					470				475						480
Gln	Gln	His	Gln	Arg	Leu	Ala	Gln	Leu	Leu	Leu	Ile	Leu	Ser	His	Ile
				485					490					495	
Arg	His	Met	Ser	Asn	Lys	Arg	Met	Glu	His	Leu	Tyr	Ser	Met	Lys	Cys
			500					505					510		
Lys	Asn	Val	Val	Pro	Leu	Tyr	Asp	Leu	Leu	Leu	Glu	Met	Leu	Asp	Ala
		515					520					525			
His	Arg	Leu	His	Ala	Pro	Thr	Ser	Arg	Gly	Gly	Ala	Ser	Val	Glu	Glu
		530				535					540				
Thr	Asp	Gln	Ser	His	Leu	Ala	Thr	Ala	Gly	Ser	Thr	Ser	Ser	His	Ser
545					550				555						560
Leu	Gln	Lys	Tyr	Tyr	Ile	Thr	Gly	Glu	Ala	Glu	Gly	Phe	Pro	Ala	Thr
				565					570					575	
Val	Glu	Phe	Gln	Tyr	Leu	Pro	Asp	Thr	Asp	Asp	Arg	His	Arg	Ile	Glu
			580					585					590		
Glu	Lys	Arg	Lys	Arg	Thr	Tyr	Glu	Thr	Phe	Lys	Ser	Ile	Met	Lys	Lys
		595					600					605			
Ser	Pro	Phe	Ser	Gly	Pro	Thr	Asp	Pro	Arg	Pro	Pro	Pro	Arg	Arg	Ile
		610				615					620				
Ala	Val	Pro													

```

Ala Pro Ala Met Val Ser Ala Leu Ala Gln Ala Pro Ala Pro Val Pro
 690                695                700
Val Leu Ala Pro Gly Pro Pro Gln Ala Val Ala Pro Pro Ala Pro Lys
705                710                715                720
Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser Glu Ala Leu Leu Gln Leu
                725                730                735
Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu Leu Gly Asn Ser Thr Asp
                740                745                750
Pro Ala Val Phe Thr Asp Leu Ala Ser Val Asp Asn Ser Glu Phe Gln
                755                760                765
Gln Leu Leu Asn Gln Gly Ile Pro Val Ala Pro His Thr Thr Glu Pro
                770                775                780
Met Leu Met Glu Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr Gly Ala
785                790                795                800
Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro Leu Gly Ala Pro Gly Leu
                805                810                815
Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp Phe Ser Ser Ile Ala Asp
                820                825                830
Met Asp Phe Ser Ala Leu Leu Ser Gln Ile Ser Ser
                835                840

```

<210> 44
 <211> 7
 <212> PRT
 <213> human

<400> 44
 Met Pro Lys Arg Pro Arg Pro
 1 5

<210> 45
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> human sequence with added restriction site
 sequence

<400> 45
 ggaattcggtt gaccgggtct gctggagaca tg

32

<210> 46
 <211> 43
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> human sequence with added restriction site
 sequence

<400> 46
 ggaattcgag ctctgaacca gacccgactg tggcagggaa acc 43

 <210> 47
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> human sequence with added restriction site
 sequence

 <400> 47
 gtccctgacg gccgaccaga tggtcagtgc cttgttggat gctgagccc 49

 <210> 48
 <211> 51
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> human sequence with added restriction site
 sequence

 <400> 48
 gtgctccatg gagcgccaga cgagaccaat catcaggatc tccatccagg c 51

 <210> 49
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> human sequence with added restriction site
 sequence

 <400> 49
 caaggcaggc ctgaccctgc agcagcagca cc 32

 <210> 50
 <211> 74
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> human sequence with added restriction site
 sequence

 <400> 50
 gcatctccag cagcaggtca tagaggggca ccacgttctt gcatttcag ctgtacagat 60
 gctccatcac ttg 74

<210> 51
<211> 73
<212> DNA
<213> Artificial Sequence

<220>
<223> human sequence with added restriction site
sequence

<400> 51
gcatctccag cagcagggtca tagaggggca ccacgttctt gcacttcattg ctgtacagca 60
cctccatgcc ttt 73

<210> 52
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> human sequence with added restriction site
sequence

<400> 52
cttcagtga gcttcgatga tgggcttact gaccaacctg gcagccaggg 50

<210> 53
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> human sequence with added restriction site
sequence

<400> 53
ctatgacctg ctgctggaga tgctggacg 29

<210> 54
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> human sequence with added restriction site
sequence

<400> 54
catatgggtcg acgaattcgc ggccgcac 28

<210> 55
<211> 74
<212> DNA
<213> Artificial Sequence

<220>

<223> human sequence with added restriction site
sequence

<400> 55

gcattctccag cagcaggtca tagaggggca ccacgttctt gcacttcatg ctgtacagat 60
gctccatgcg ttg 74

<210> 56

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> human sequence with added restriction site
sequence

<400> 56

gtccaagatc tccacgatgc cctctacac

29

<210> 57

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> human sequence with added restriction site
sequence

<400> 57

gatatccaag aacagcctgg ccttgctcct gacg

34

<210> 58

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> human sequence with added restriction site
sequence

<400> 58

actagtgaat tcgactgtgg cagggaaacc ctctgcctcc c

41

<210> 59

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> human sequence with added restriction site
sequence

<400> 59
ctgaccaacc tggcagacag 20

<210> 60
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> human sequence with added restriction site
sequence

<400> 60
ggactcgggtg gatatggtcc 20

<210> 61
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> human sequence with added restriction site
sequence

<400> 61
gttcacatga tcaactgggc g 21

<210> 62
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> human sequence with added restriction site
sequence

<400> 62
gagacttcag ggtgctggac 20